

Observing Global Ocean Circulation From Space: The First Year's Results From the TOPEX/POSEIDON Mission

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The joint U.S./France TOPEX/Poseidon satellite was launched on August 10, 1992, and became operational 42 days later. The major goal of the mission is to use a radar altimeter system for making precise measurements of the height of the sea surface for the study of the dynamics of large-scale ocean circulation, which is a key to understanding global climate change. Additionally, the data are used for studying ocean tides and marine geophysics. The radar altimeter also measures wave height and wind speed. The mission is being conducted to optimize the sea surface height measurements for a minimum of three years. "The primary objective of the first six months of the mission was to calibrate and validate the mission's measurements. The verification results indicate that all the measurement objectives have been met. In fact, many measurements have exceeded performance requirements. The root-mean-square error of a single-pass sea height measurement is estimated to be less than 6 cm, far better than the performance of any other satellite altimeters. A summary of the mission's results during the first year will be presented. The emphasis will be placed on the assessment of the mission's unique capability for the study of large-scale ocean circulation.

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5. (a) U 11 Observing Earth From Space

(b) 4532 General circulation
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